

CLAIMS

1. Cooling panel for a shaft furnace of the type through which at least one vertical duct runs, the ends of which are connected to connection ends running transversely with respect to the plane of the cooling panel, in which furthermore each duct and the connection ends are formed from a continuous tube made from a material selected from the group consisting of low-carbon steel, stainless steel and an alloy which predominantly comprises Cu and Ni with an Ni content of $\geq 28\%$ by weight, and the remainder of the cooling panel consists of copper which is cast around this tube, the cooling panel being provided, on the side remote from the connection ends, with a multiplicity of horizontal ribs.
2. Cooling panel according to Claim 1, characterized in that the material of the continuous tube contains between 65 and 70% by weight Ni, approx. 3% Fe and $\leq 1\%$ of one or more of the elements Mn, Si and C.
3. Cooling panel according to Claim 2, characterized in that the material of the continuous tube consists of Monel, with a composition of approx. 28% Cu, 68% Ni, 3% Fe, 1% Mn and low Si and/or C contents.
4. Cooling panel according to one of claims 1-3, characterized in that the ribs have a length, in the width direction of the cooling panel, which is smaller than the width of the cooling panel.
5. Cooling panel according to claim 4, characterized in that the ribs have a length in the width direction of the cooling panel of $\leq 50\%$, preferably $\leq 25\%$, of the width of the panel.
6. Cooling panel according to one of Claims 1-5, characterized in that the ribs are provided with supporting backs.
7. Cooling panel according to Claim 6, characterized in that each of the ribs with a supporting back is T-shaped in cross section, parallel to the plane of the cooling panel.
8. Cooling panel according to Claim 6, characterized in that each of the ribs with supporting backs are in the shape of a + in cross section, parallel to the plane of the cooling panel.

9. Cooling panel according to Claim 6, characterized in that the ribs are provided with supporting backs on either side in the vicinity of their ends.
- 5 10. Cooling panel according to one of Claims 1-9, characterized in that the wall is provided, on the side of the connection ends, on either side of each duct, with undulating recesses in which reinforcing walls which fill up these recesses are distributed over the height of the cooling panel.
- 10 11. Cooling panel according to one of Claims 1-10, characterized in that the wall, on the side remote from the connection ends, is provided, on either side of each duct, with undulating recesses.
- 15 12. Cooling panel according to Claim 1, characterized in that the ribs thicken towards their free ends remote from the main body of the cooling panel.
- 20 13. Shaft furnace provided with a jacket which on the inside is at least partially provided with cooling panels according to one of Claims 1-12.
14. Process for producing a cooling panel according to one of Claims 2-13, characterized in that the continuous tube (or tubes) is firstly given its final shape, after which the copper for the cooling-panel body to be formed is cast around it at a temperature which is so close to the melting point of the tube material that, after the cast material has cooled, it is attached to the tube material.

Added 3